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Serial No.: 10/696,889 Filed: 10/30/03
Examiner: Group Art Unit: 2812
Applicant: Mark A. Burns *et al.*
Title: **Thermal Micro-Valves for Micro-Integrated Devices**
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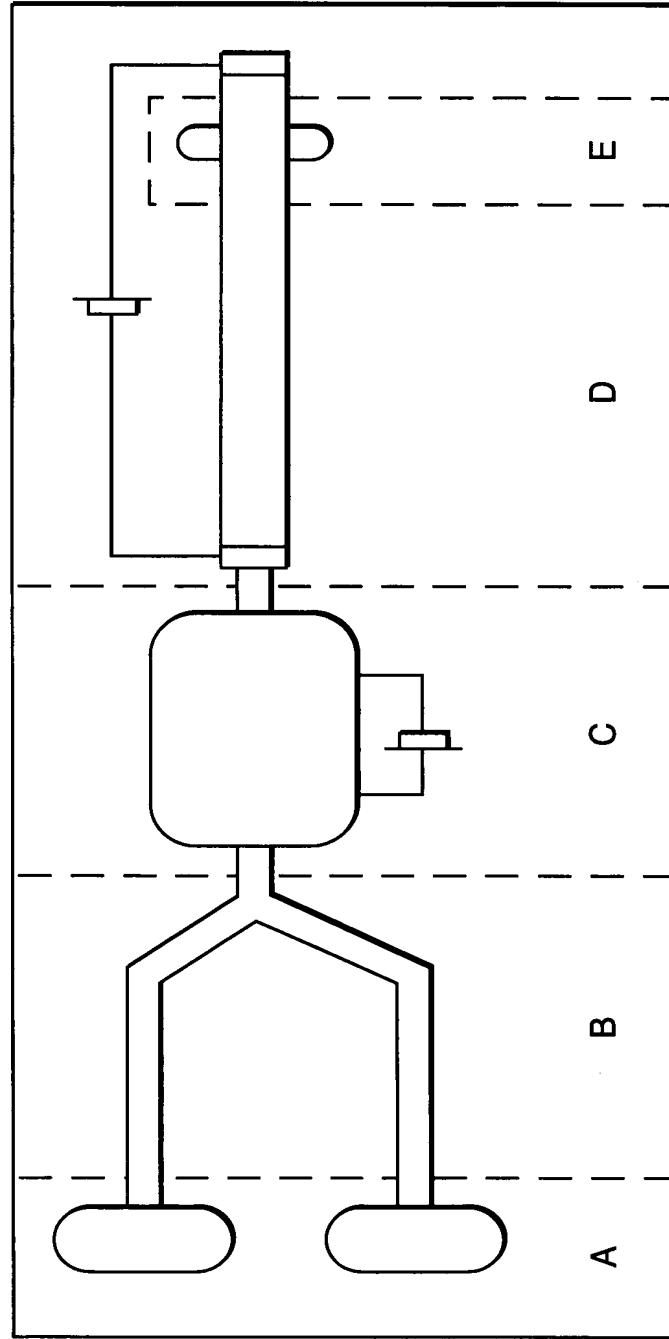


FIG. 1

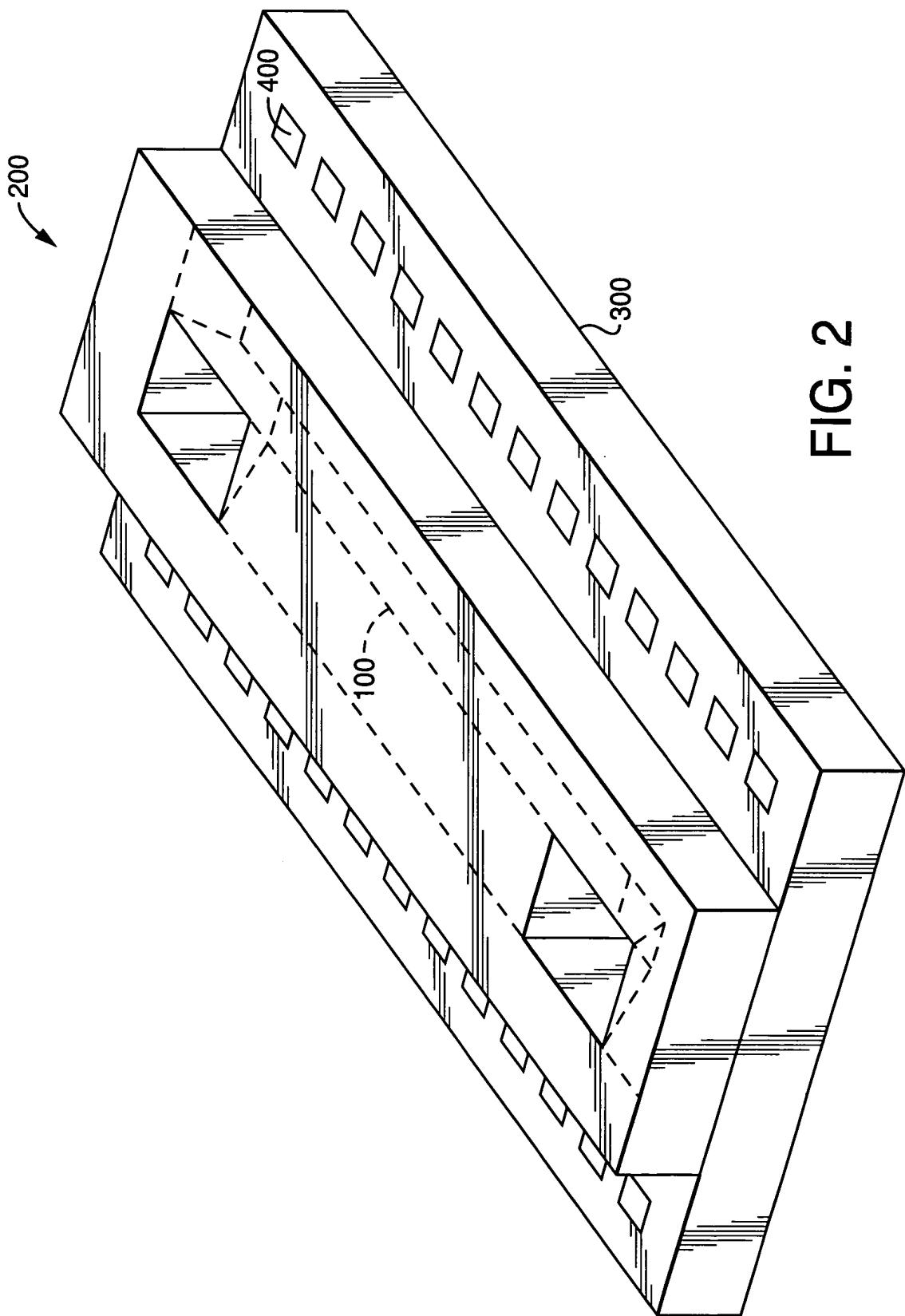


FIG. 2

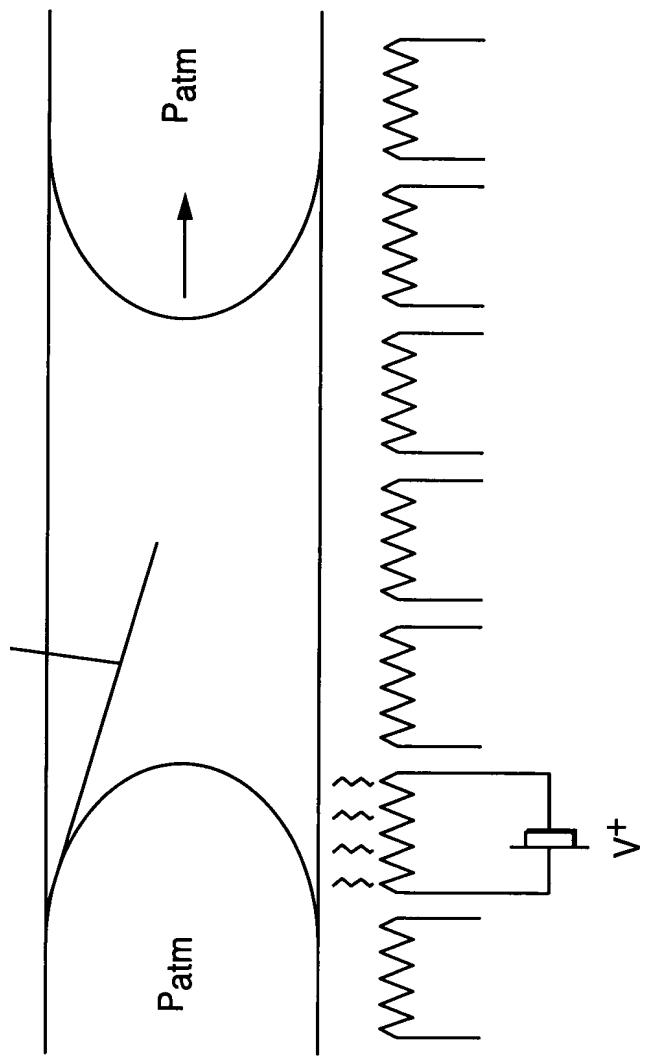


FIG. 3

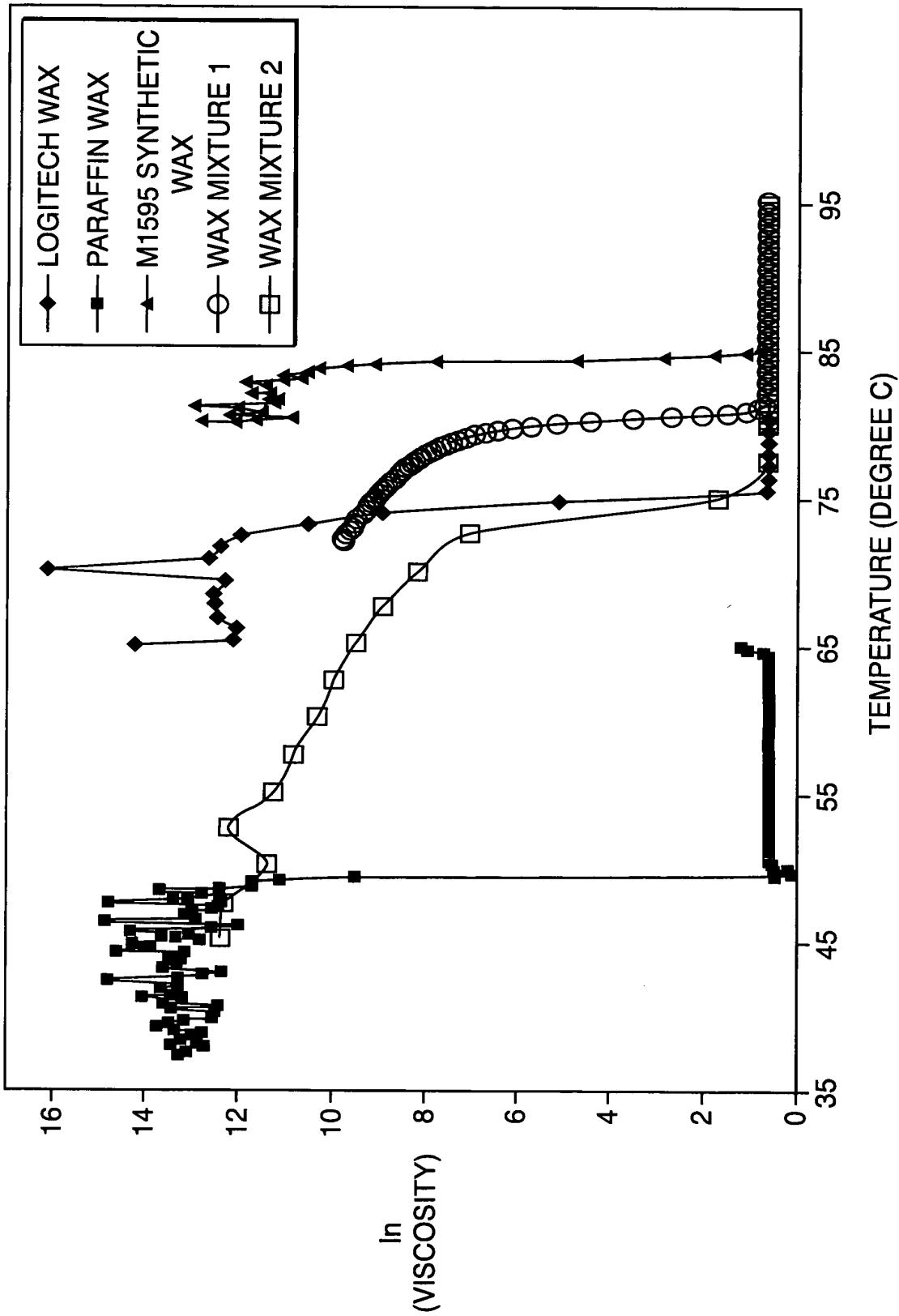


FIG. 4

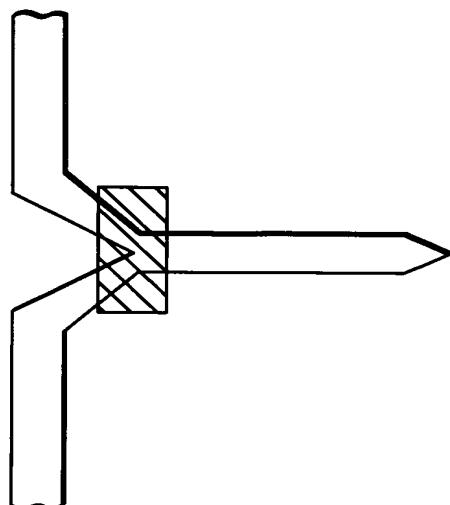


FIG. 5C

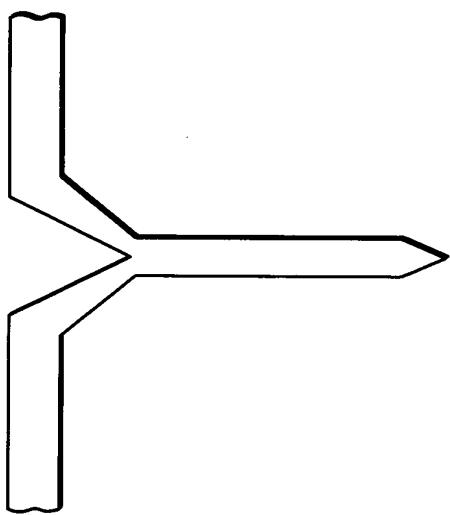


FIG. 5B

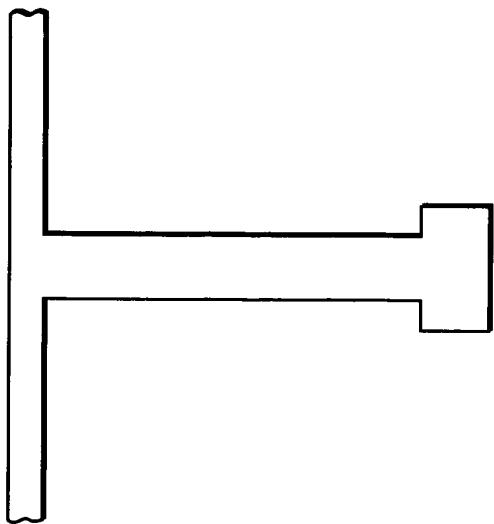


FIG. 5A

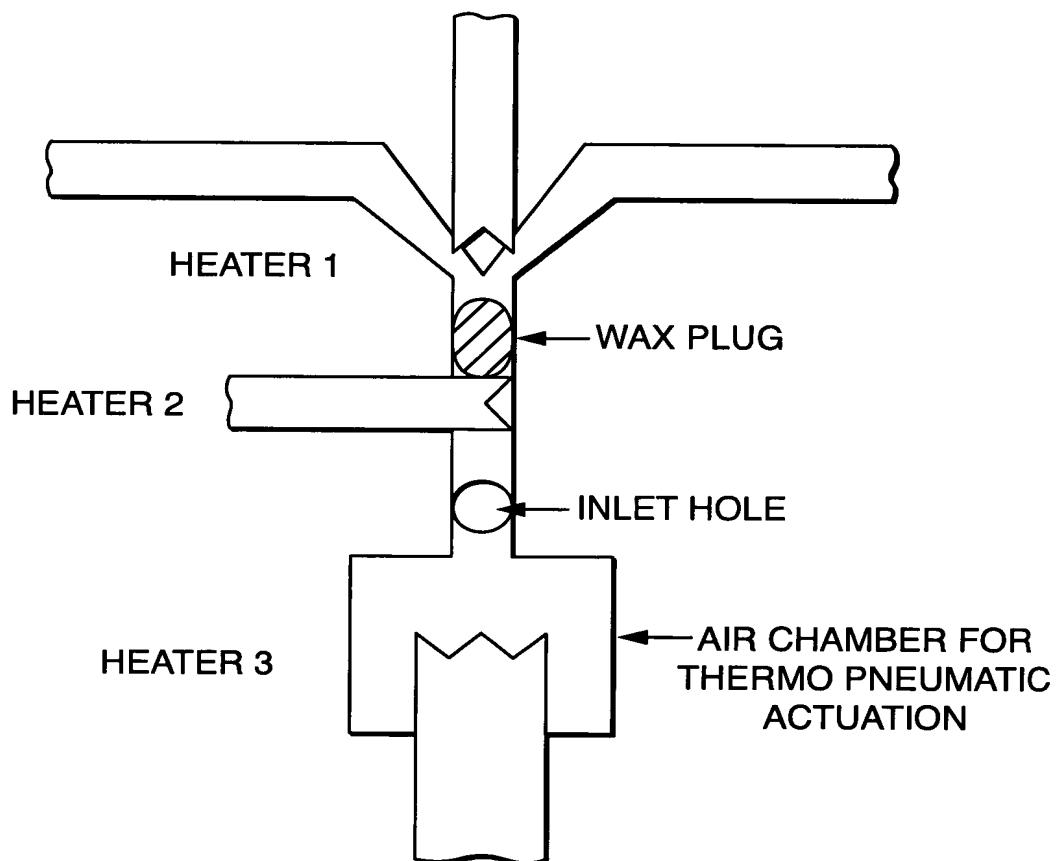


FIG. 6

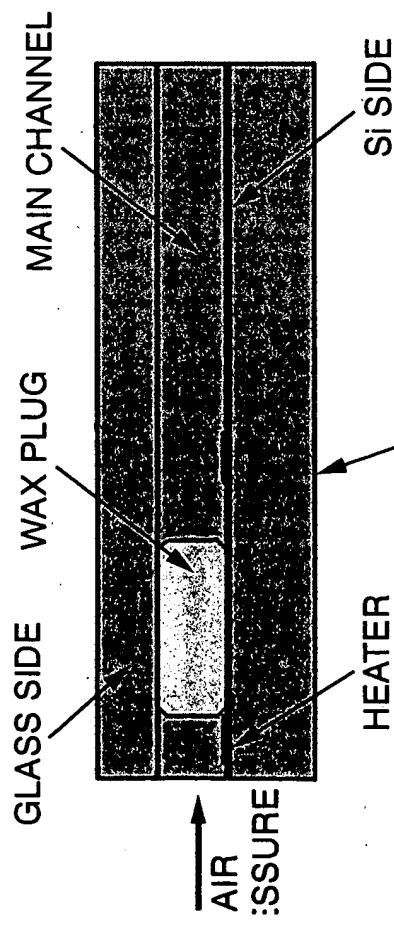


FIG. 7A

T = 10 DEGREE C

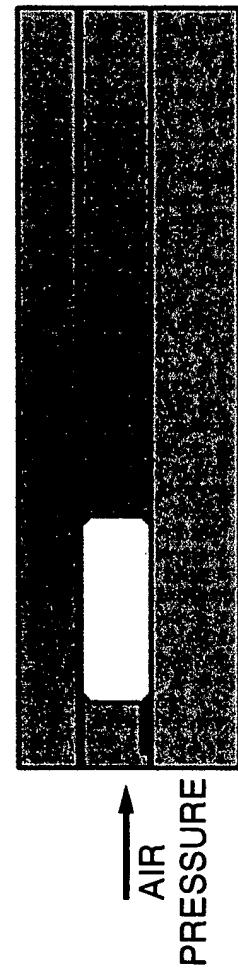


FIG. 7B

T = 10 DEGREE C

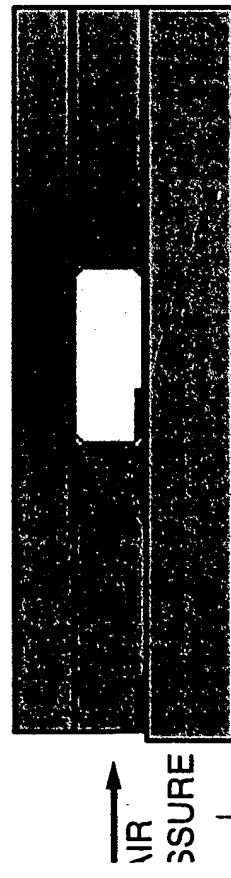


FIG. 7C

T = 10 DEGREE C

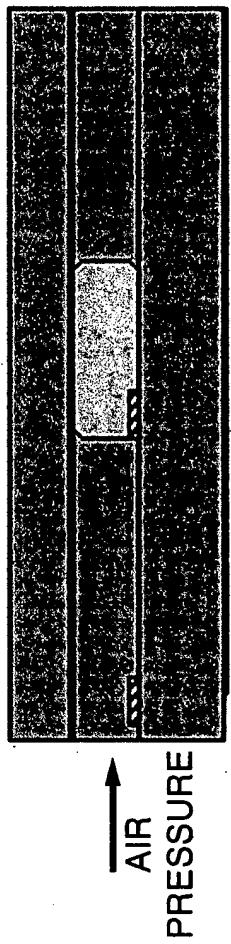


FIG. 7D

T = 10 DEGREE C

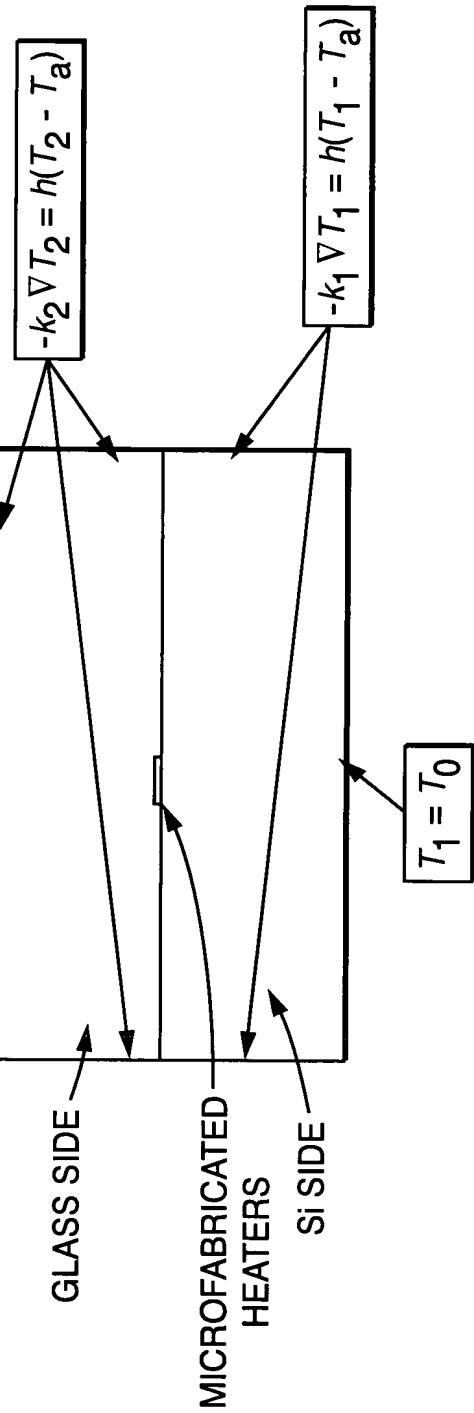


FIG. 8

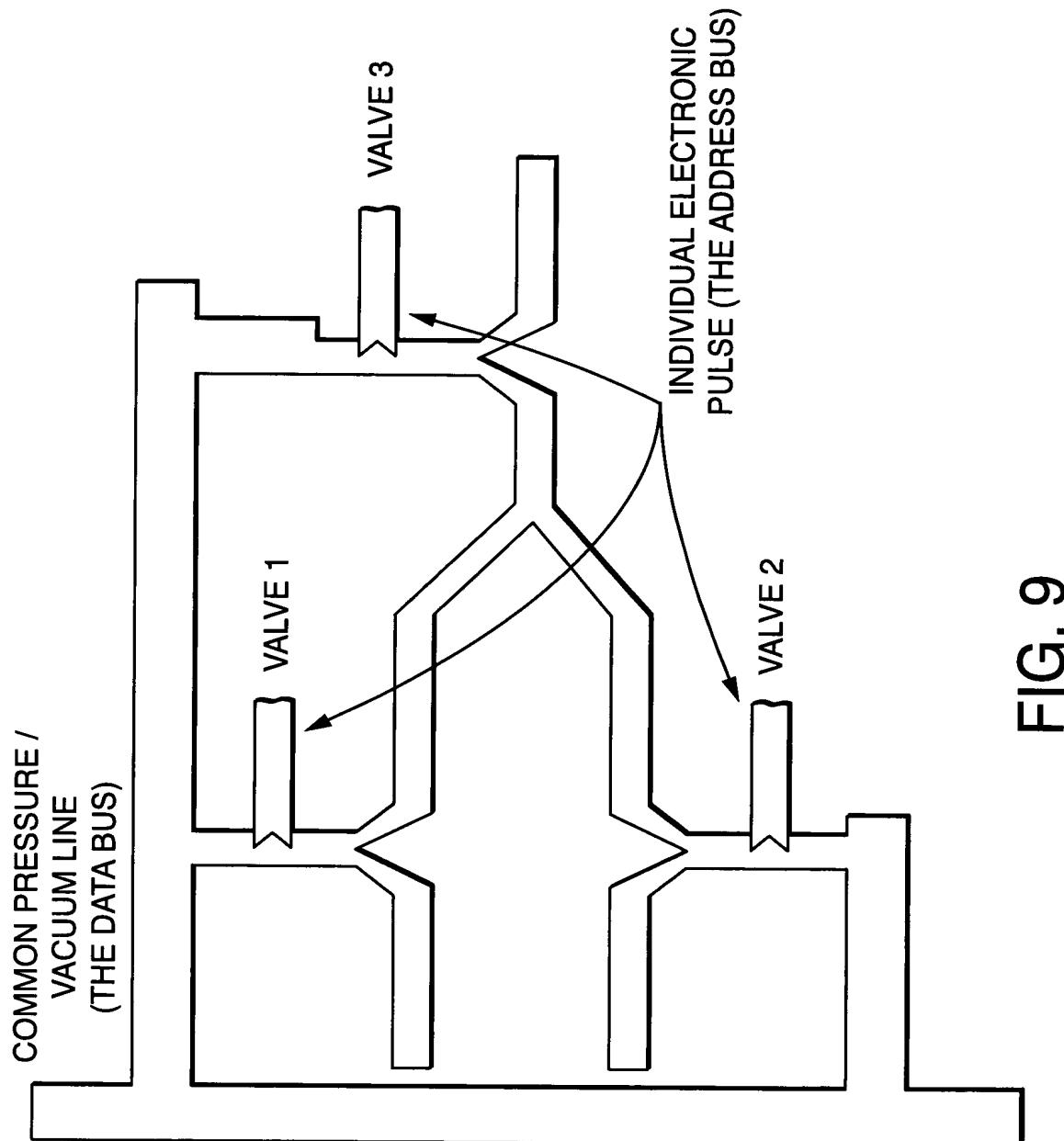


FIG. 9

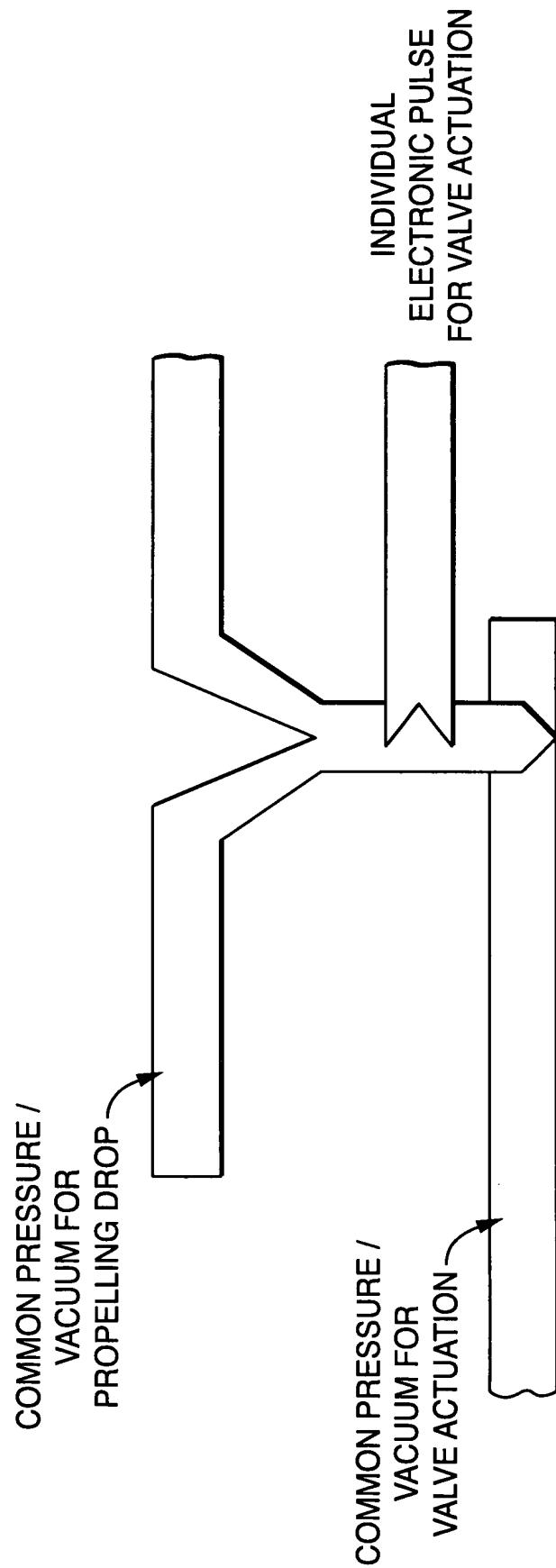


FIG. 10

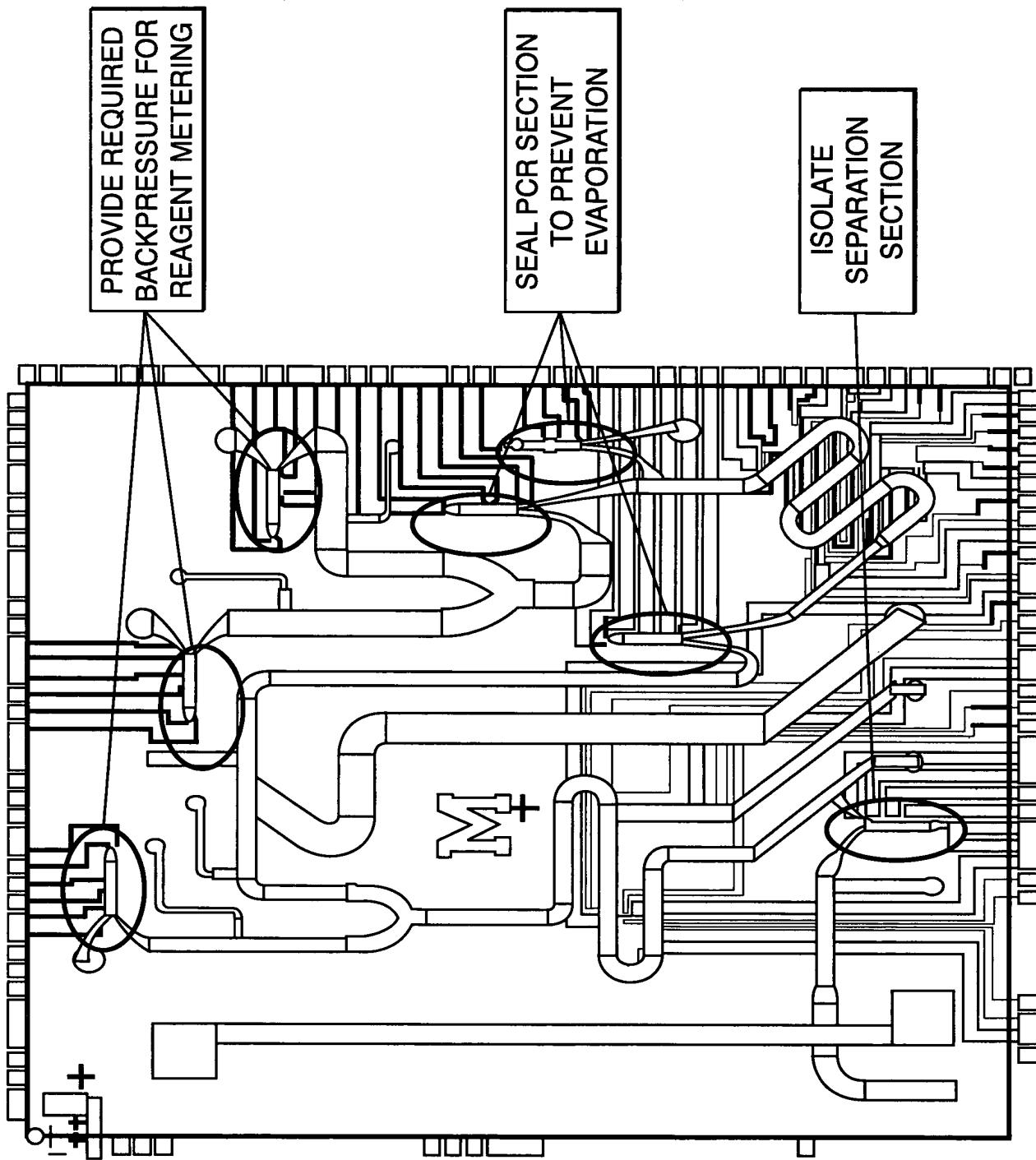


FIG. 11

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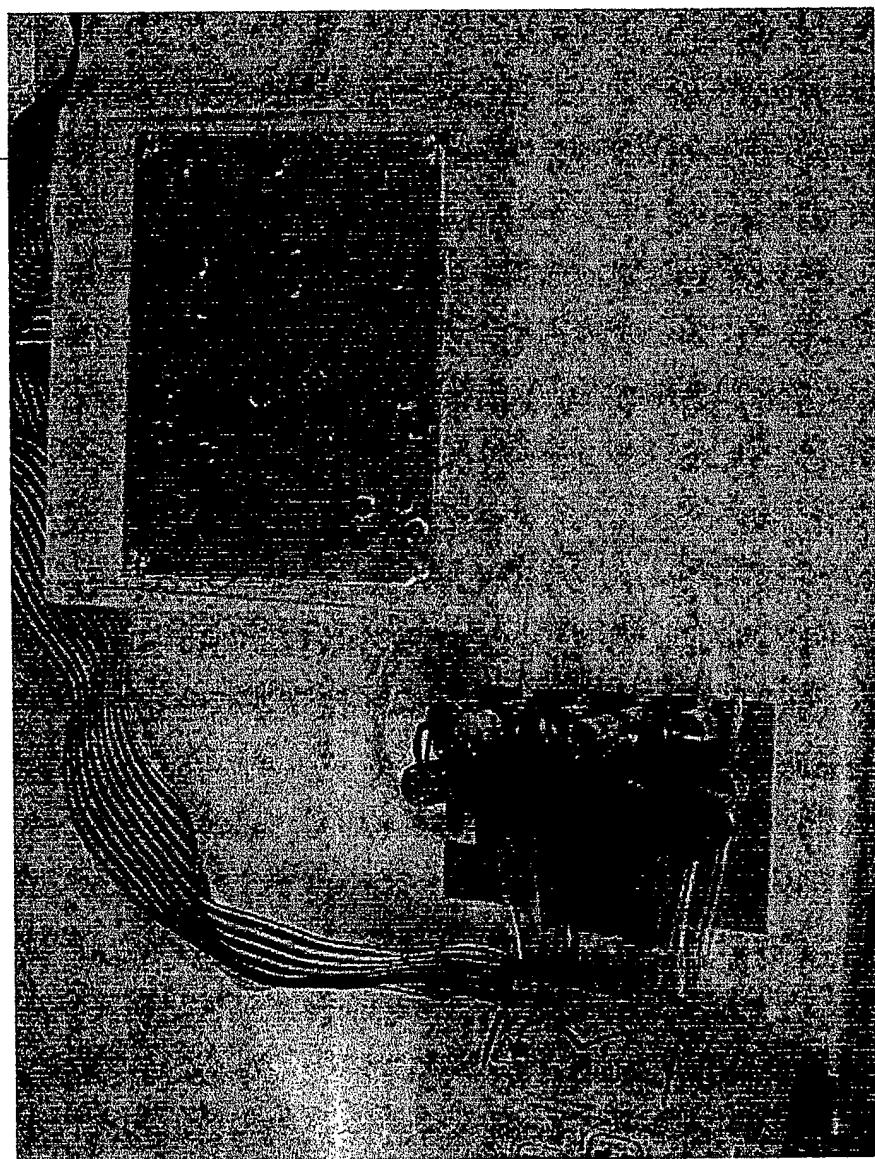


FIG. 12

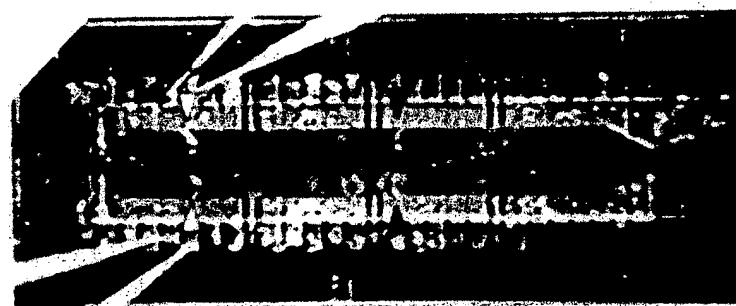


FIG. 13A

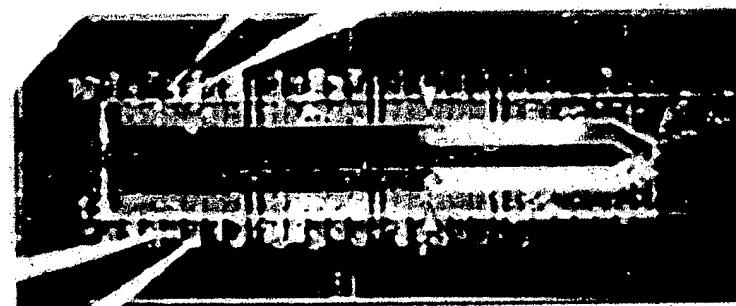


FIG. 13B



FIG. 13C

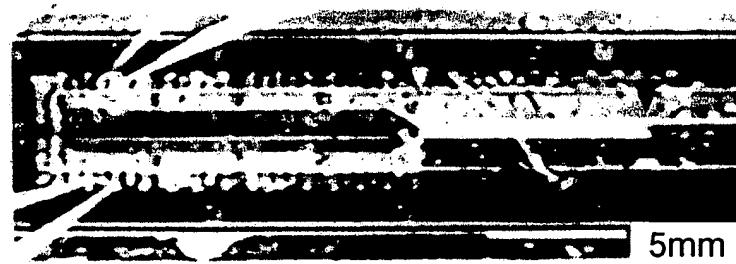


FIG. 13D

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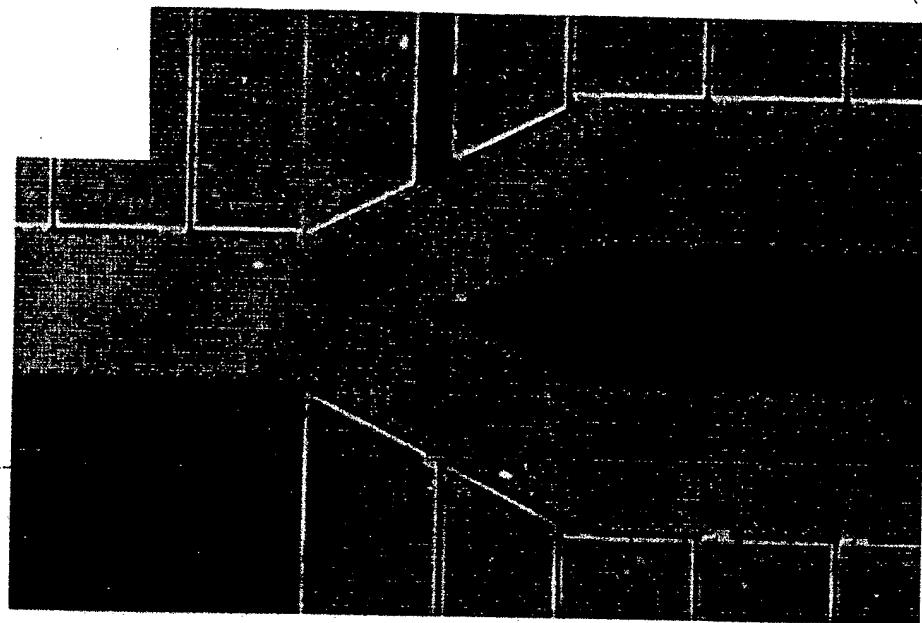


FIG. 14A

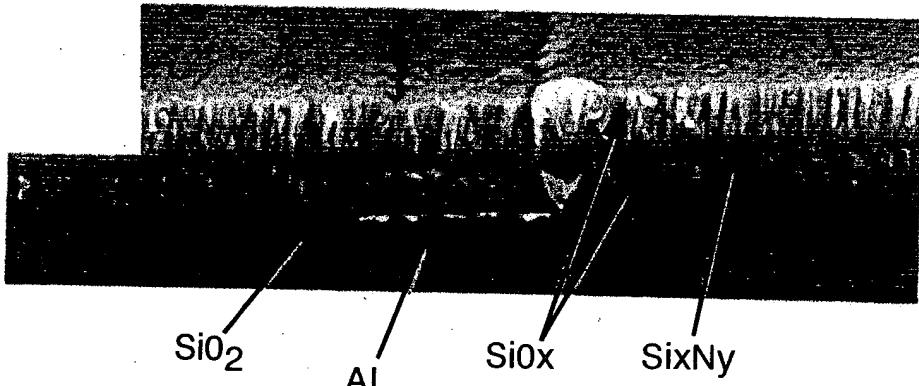


FIG. 14B

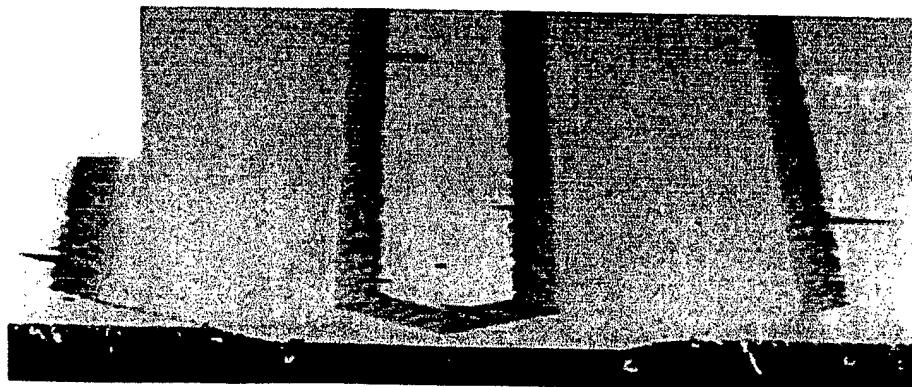


FIG. 15A

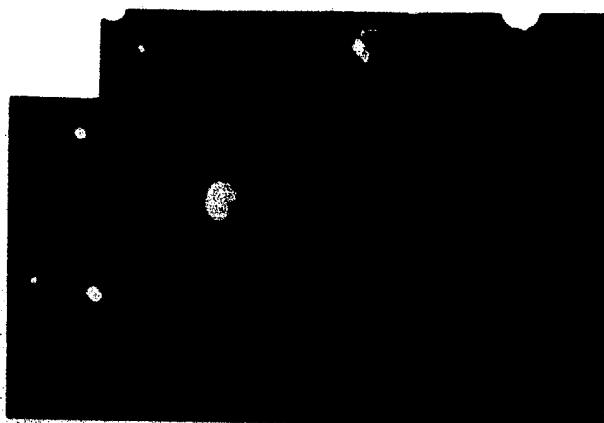


FIG. 15B

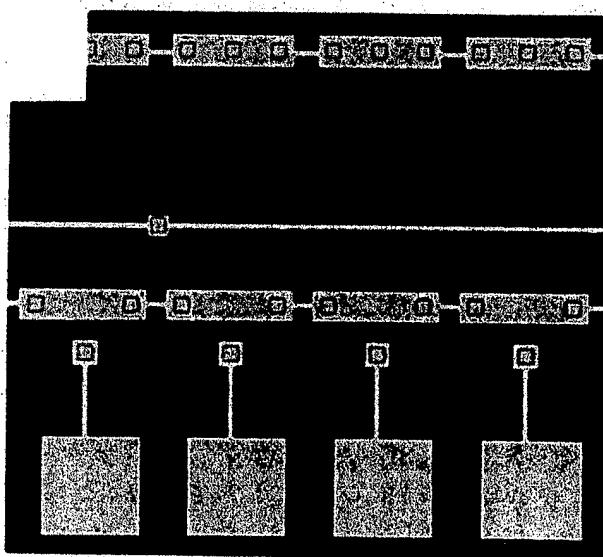
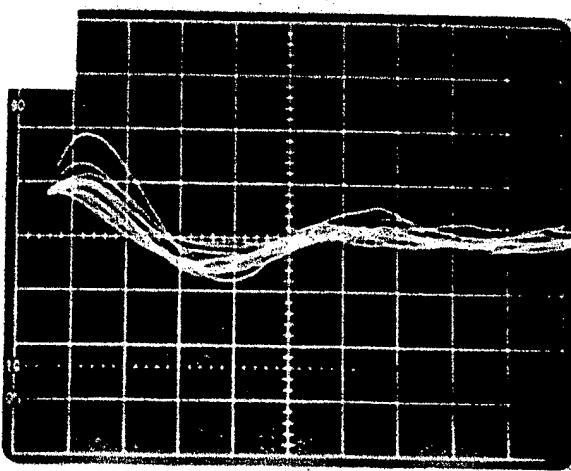


FIG. 15C



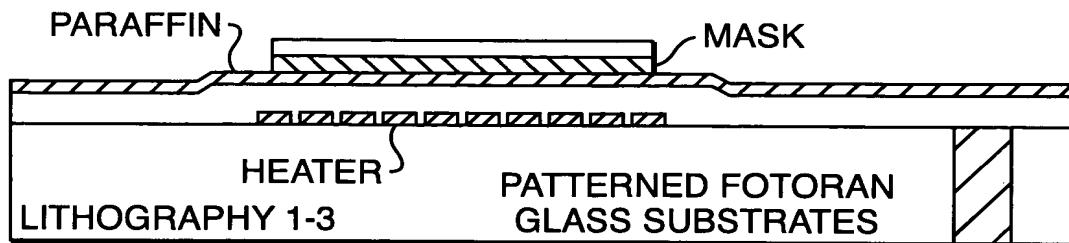


FIG. 16A

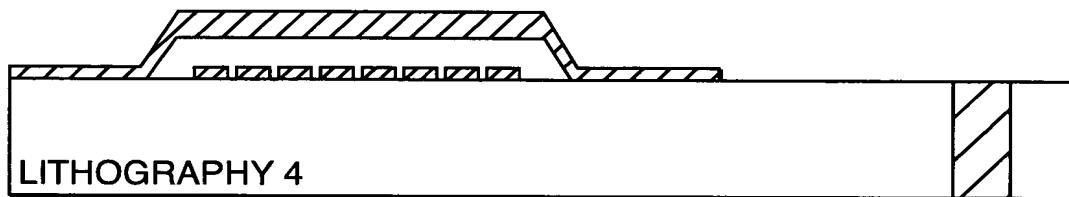


FIG. 16B

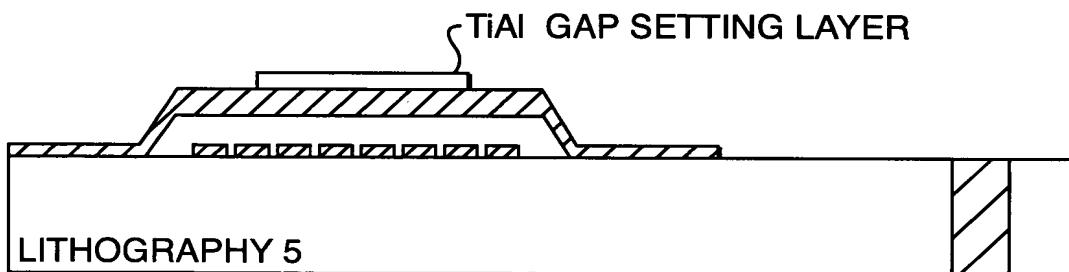


FIG. 16C

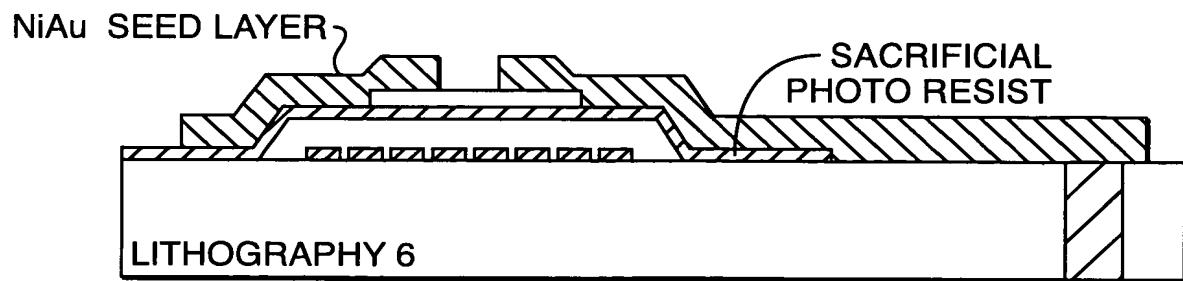


FIG. 16D

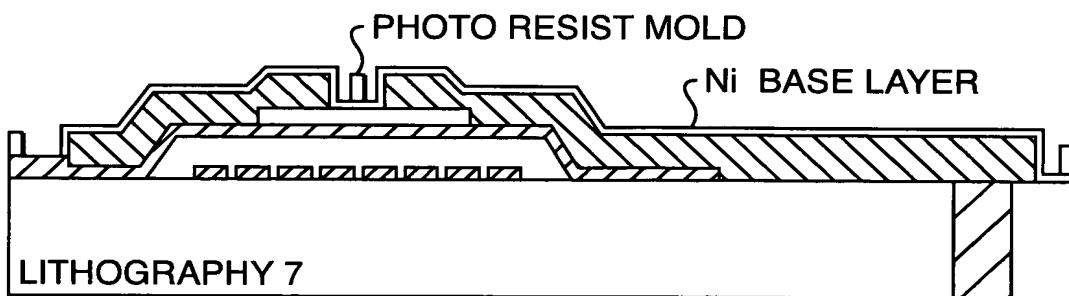


FIG. 16E

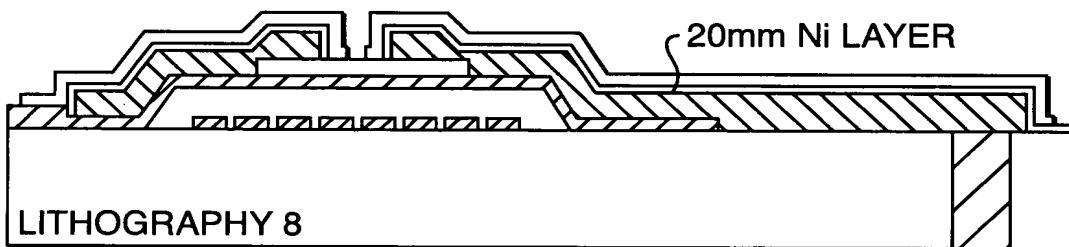


FIG. 16F

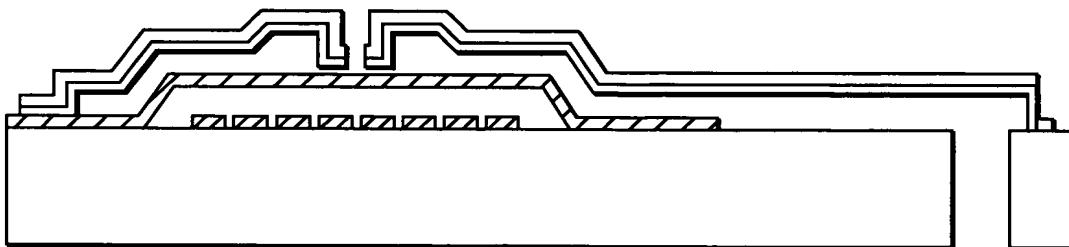


FIG. 16G

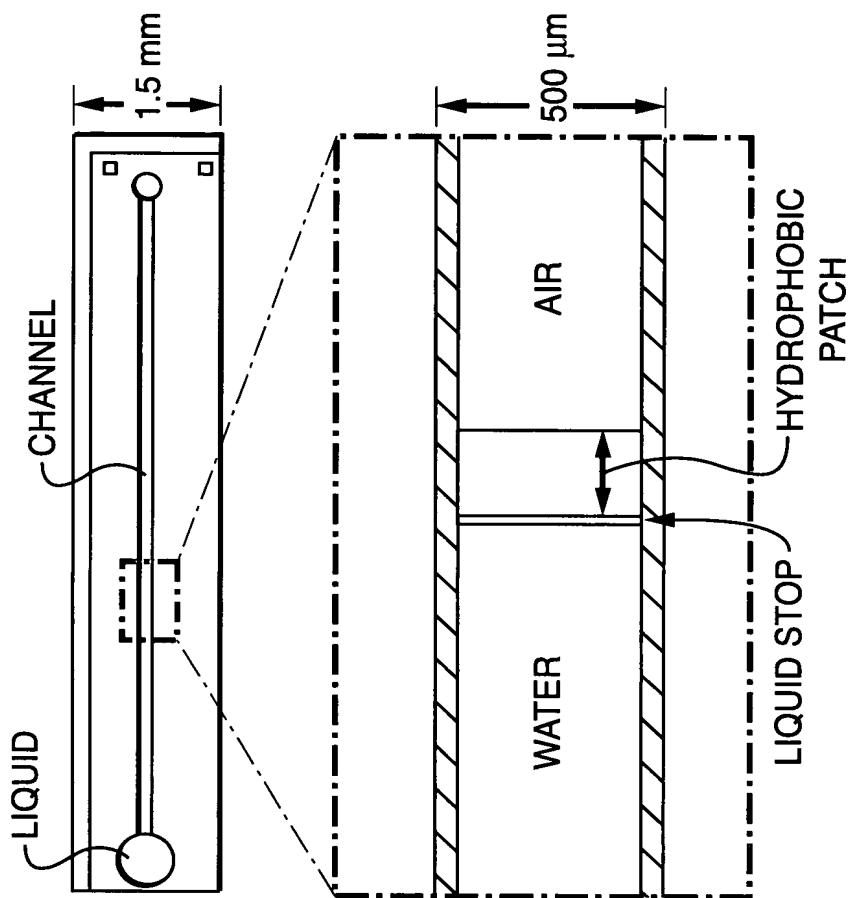


FIG. 17A

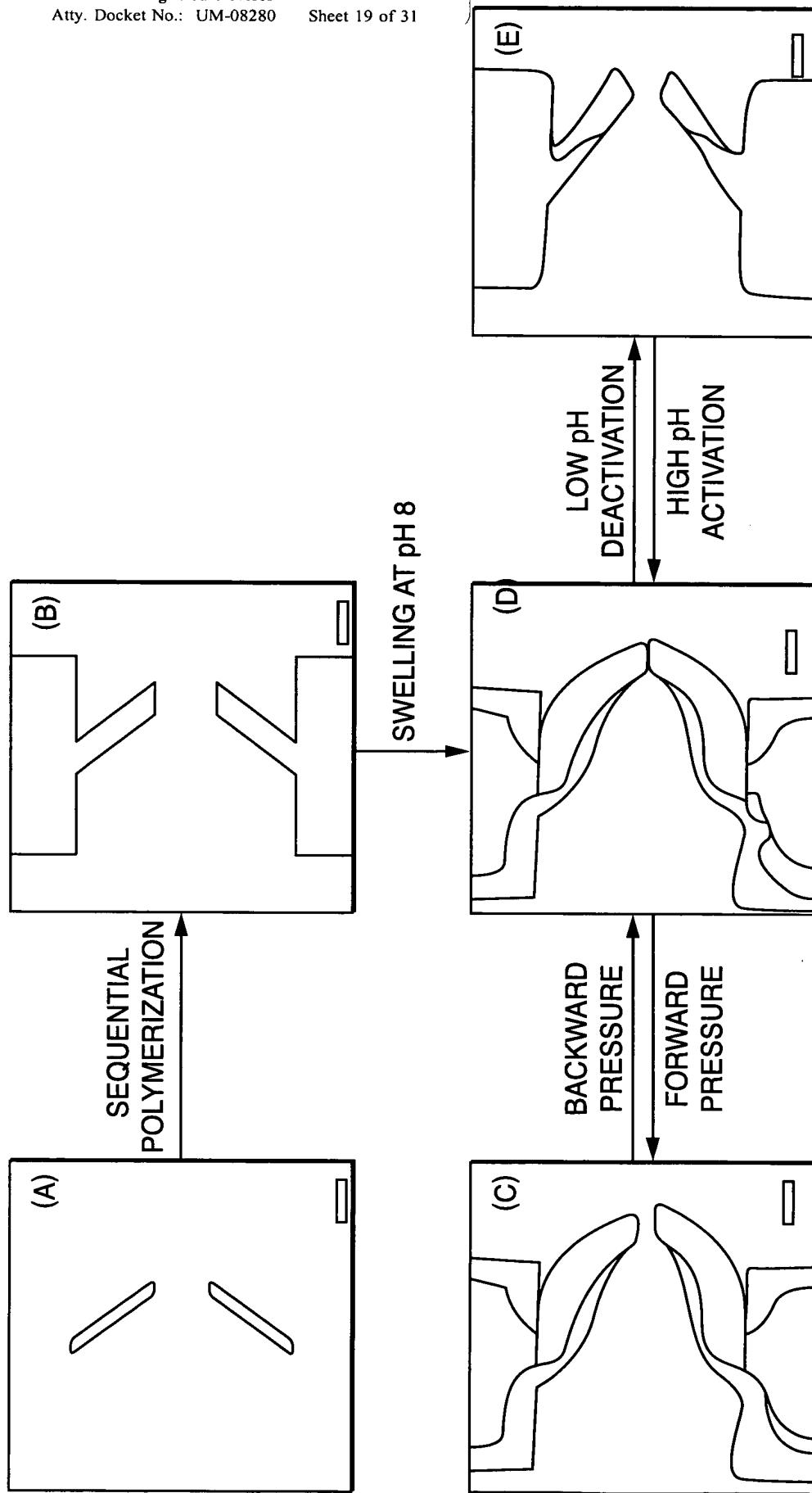


FIG. 17B

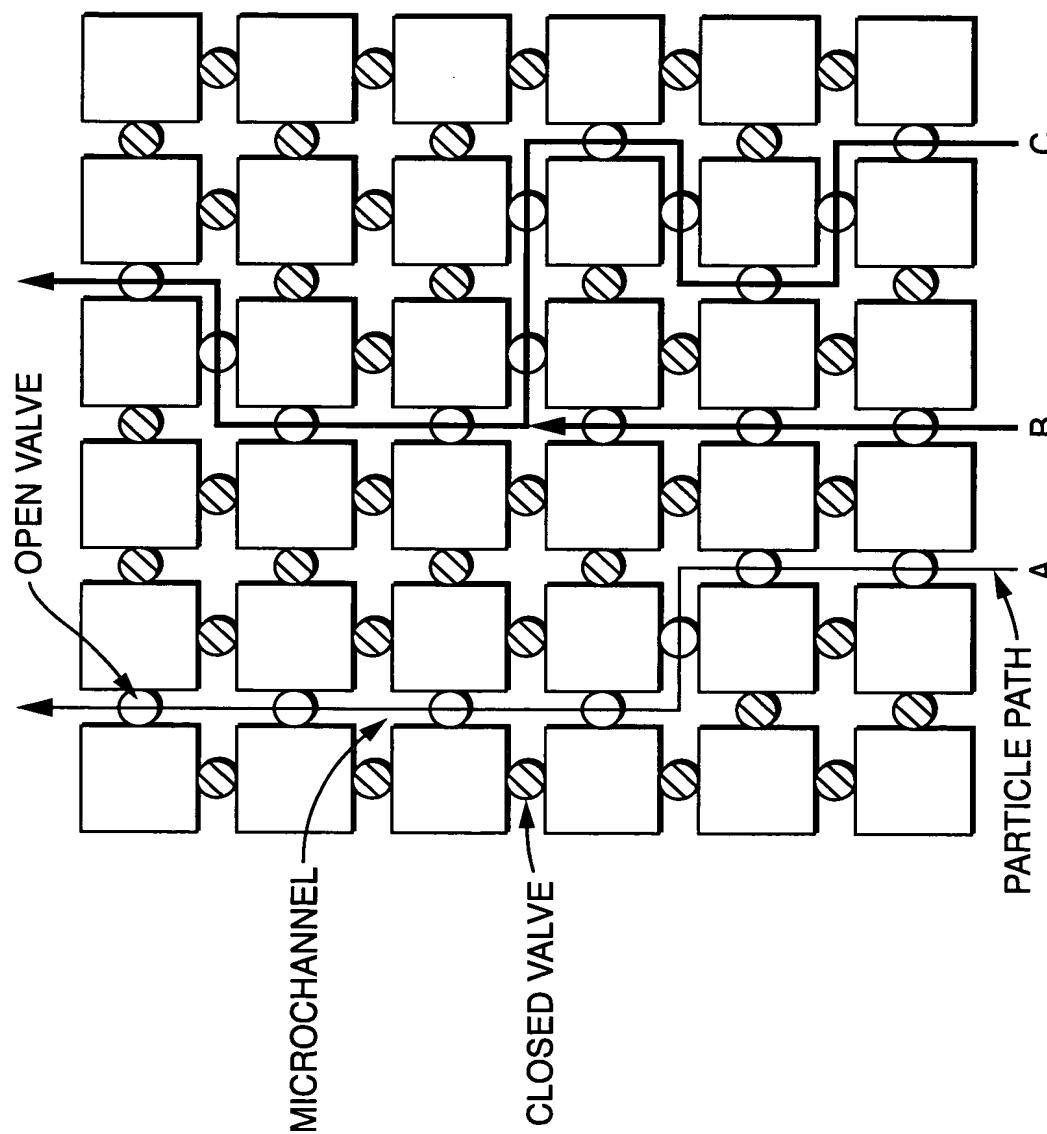


FIG. 18A

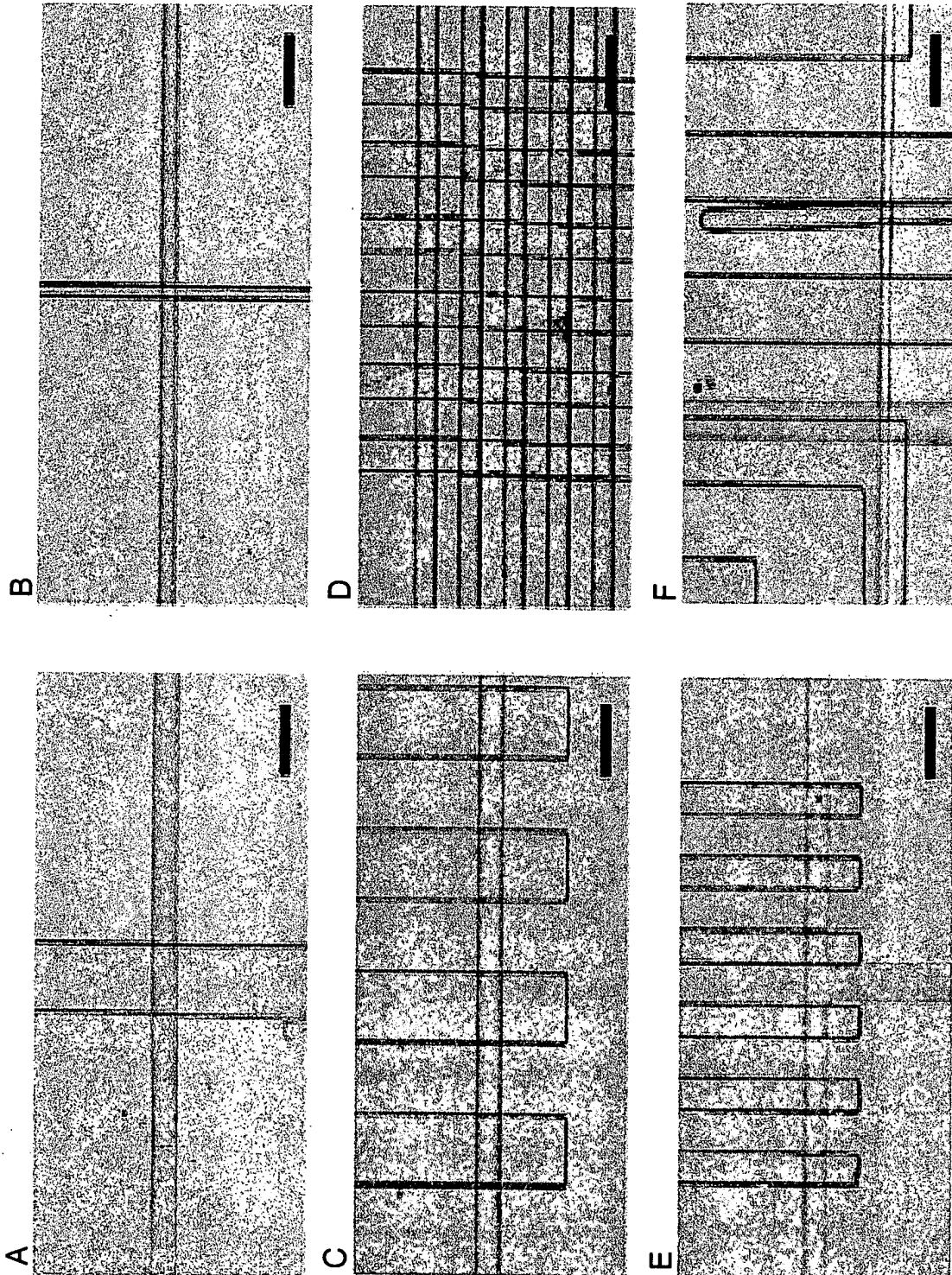


FIG. 18B

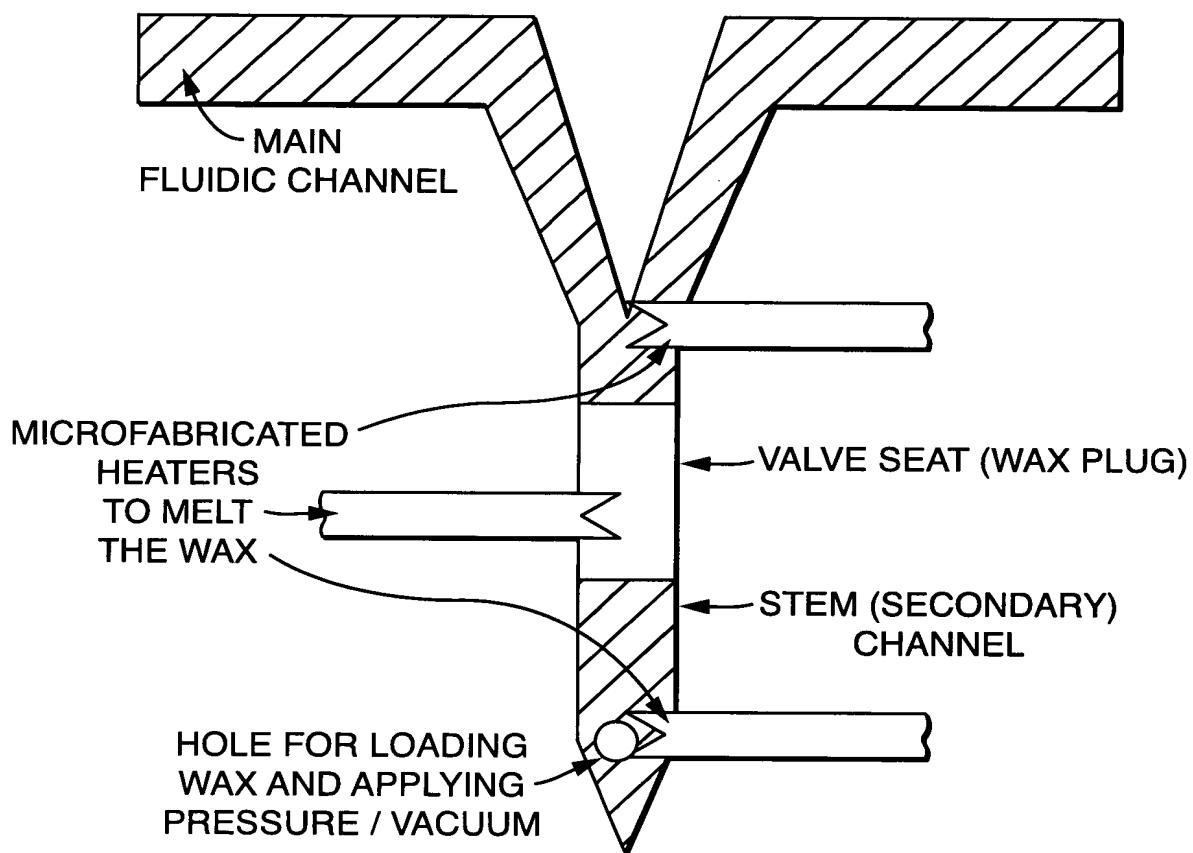


FIG. 19

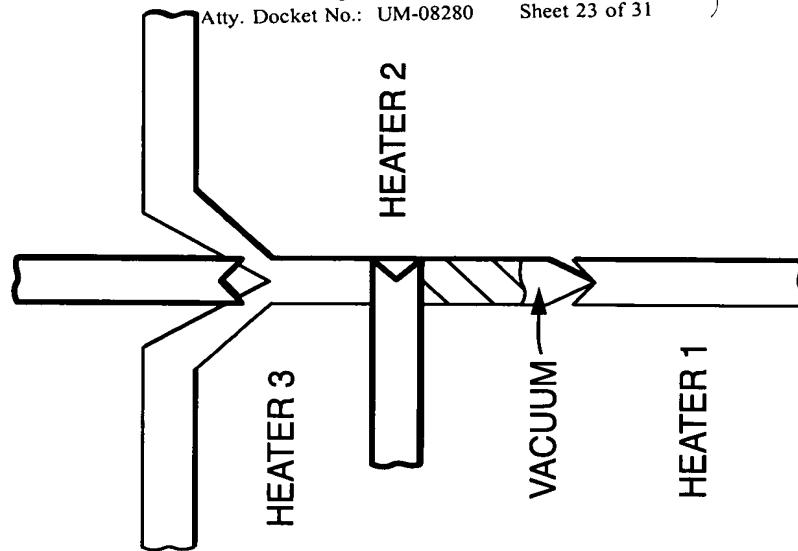


FIG. 20A

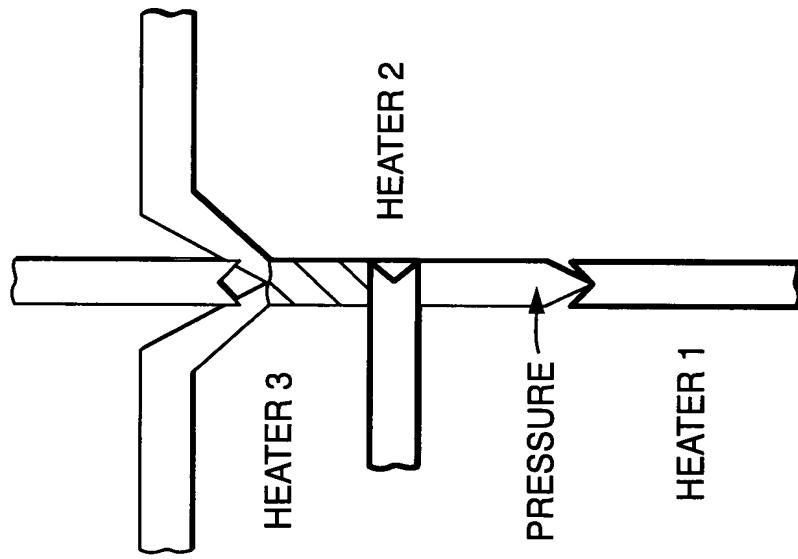


FIG. 20B

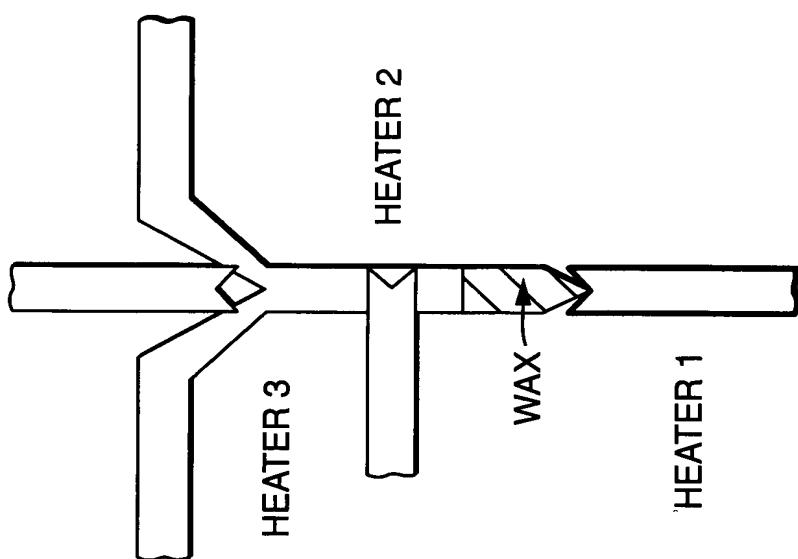


FIG. 20C

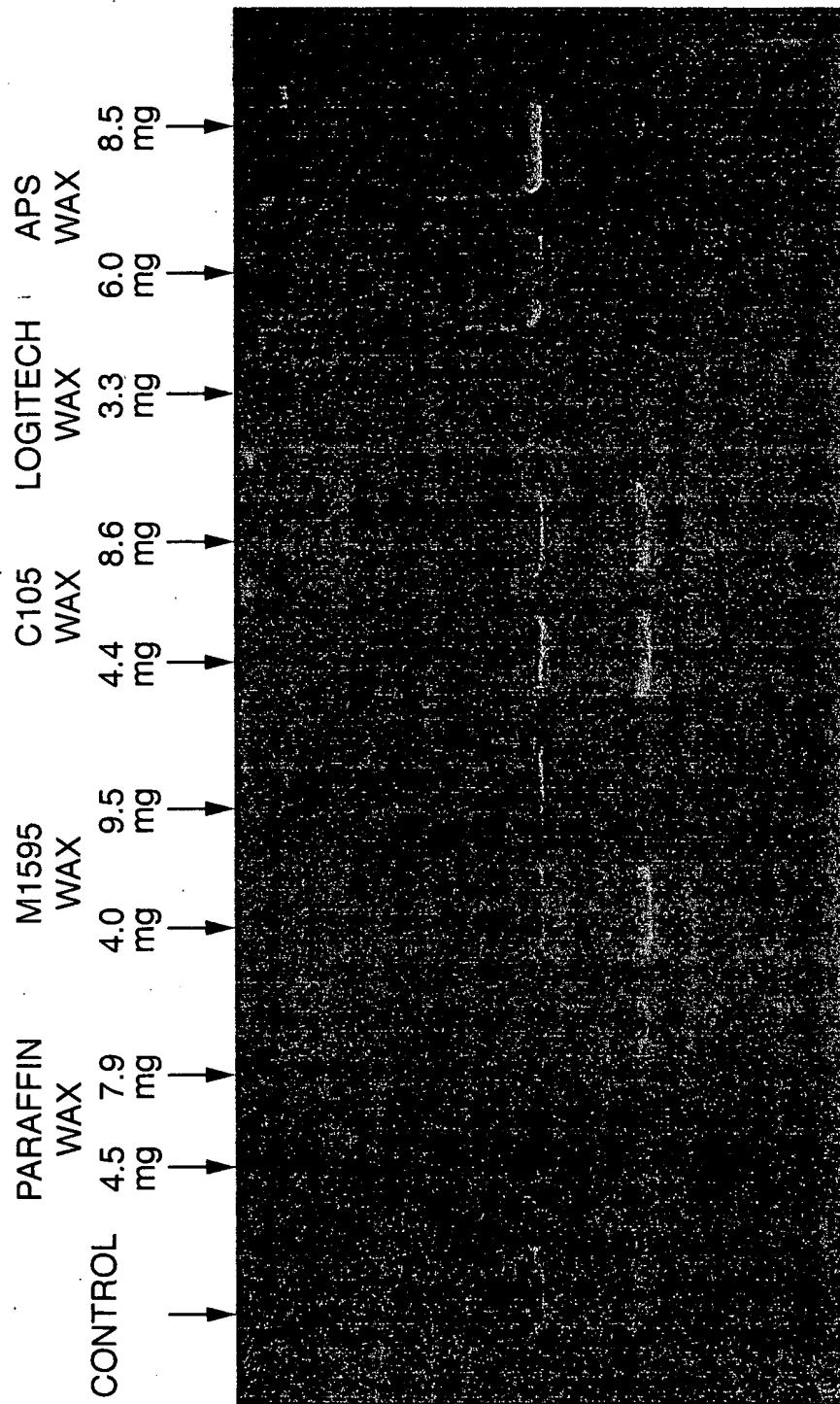
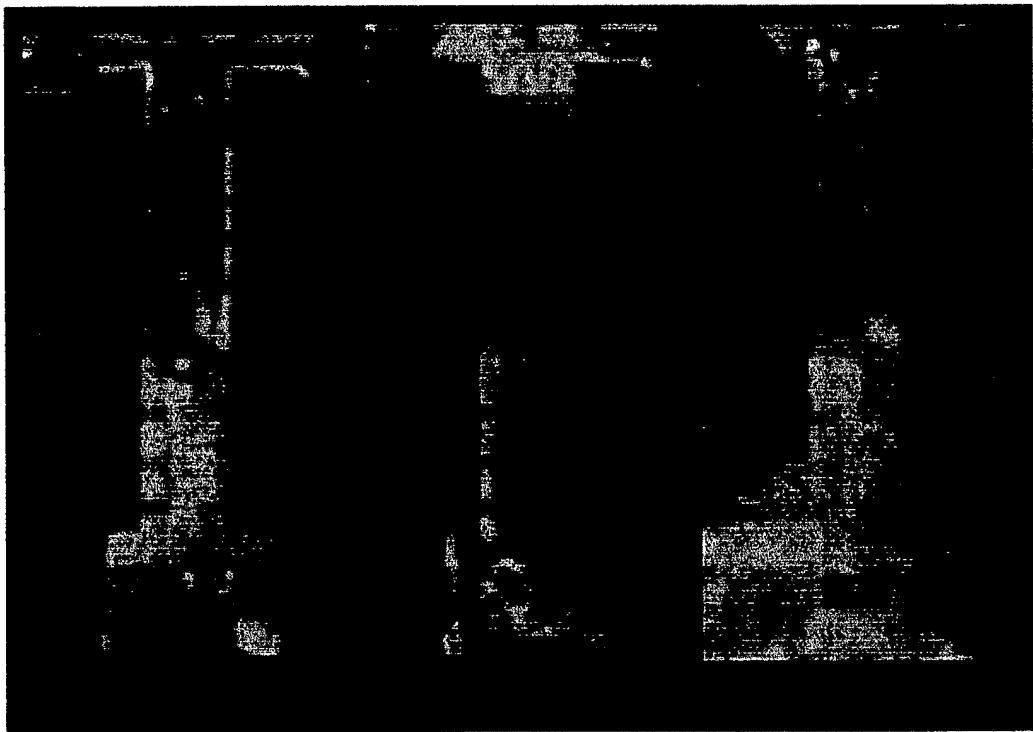


FIG. 21

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(A)

(B)

(C)

FIG. 22

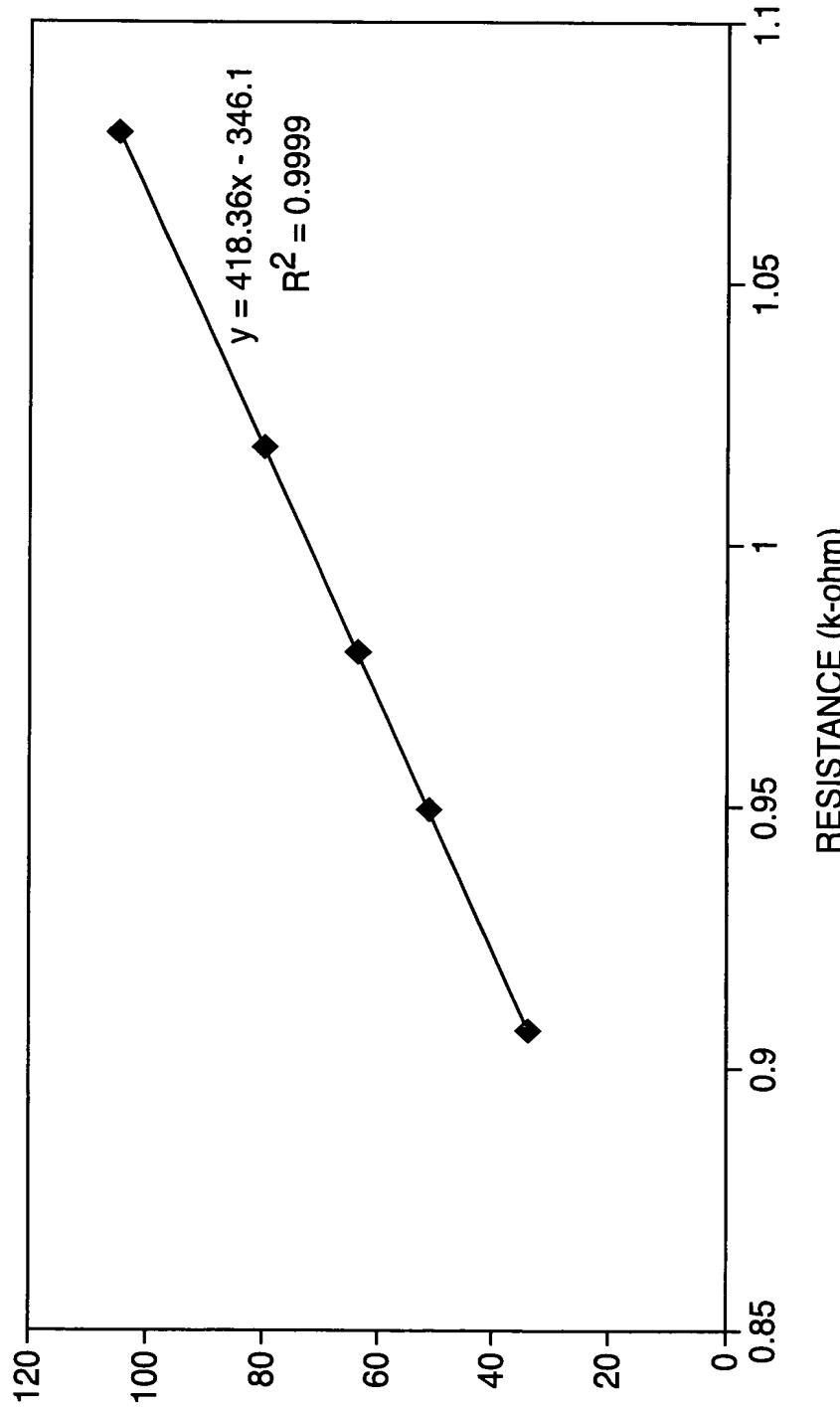


FIG. 23

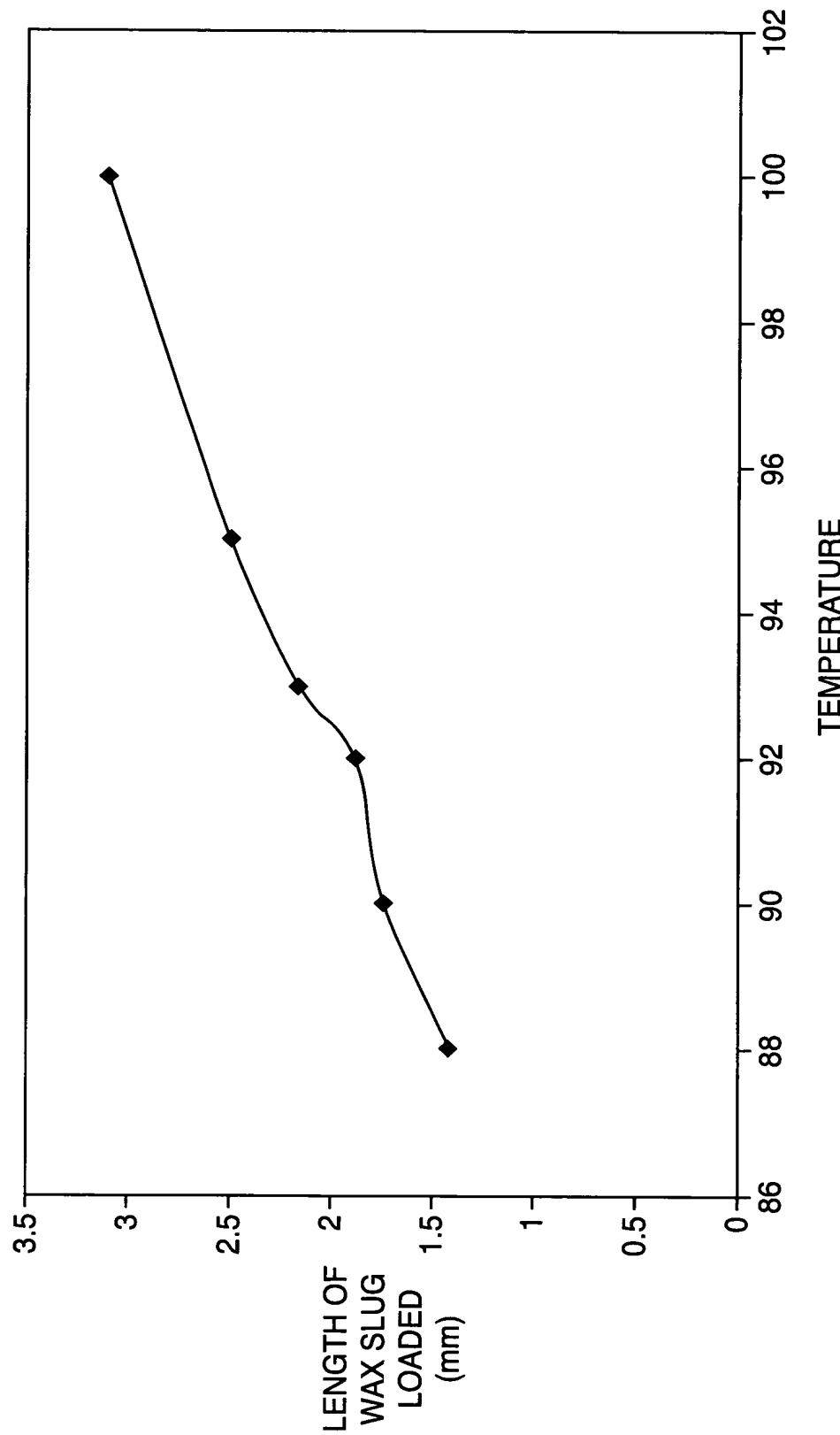


FIG. 24

FIG. 25

The graph plots Temperature (Degree C) on the Y-axis (ranging from -20 to 140) against TIME (s) on the X-axis (ranging from -20 to 100). Two data series are shown: 'INTERSECTION' (represented by open diamonds) and 'INLET PORT' (represented by a solid line with cross-hatching). Both series start at approximately 25°C at 0 seconds. The 'INLET PORT' curve remains relatively flat until about 40 seconds, then rises sharply to nearly 140°C by 60 seconds. The 'INTERSECTION' curve follows a similar path but exhibits a slight initial dip around 40 seconds before rising sharply to meet the 'INLET PORT' curve at approximately 65 seconds.

TIME (s)	INTERSECTION (°C)	INLET PORT (°C)
0	25	25
20	25	25
40	25	25
50	35	35
60	55	55
65	85	85
70	115	115
75	135	135
80	140	140

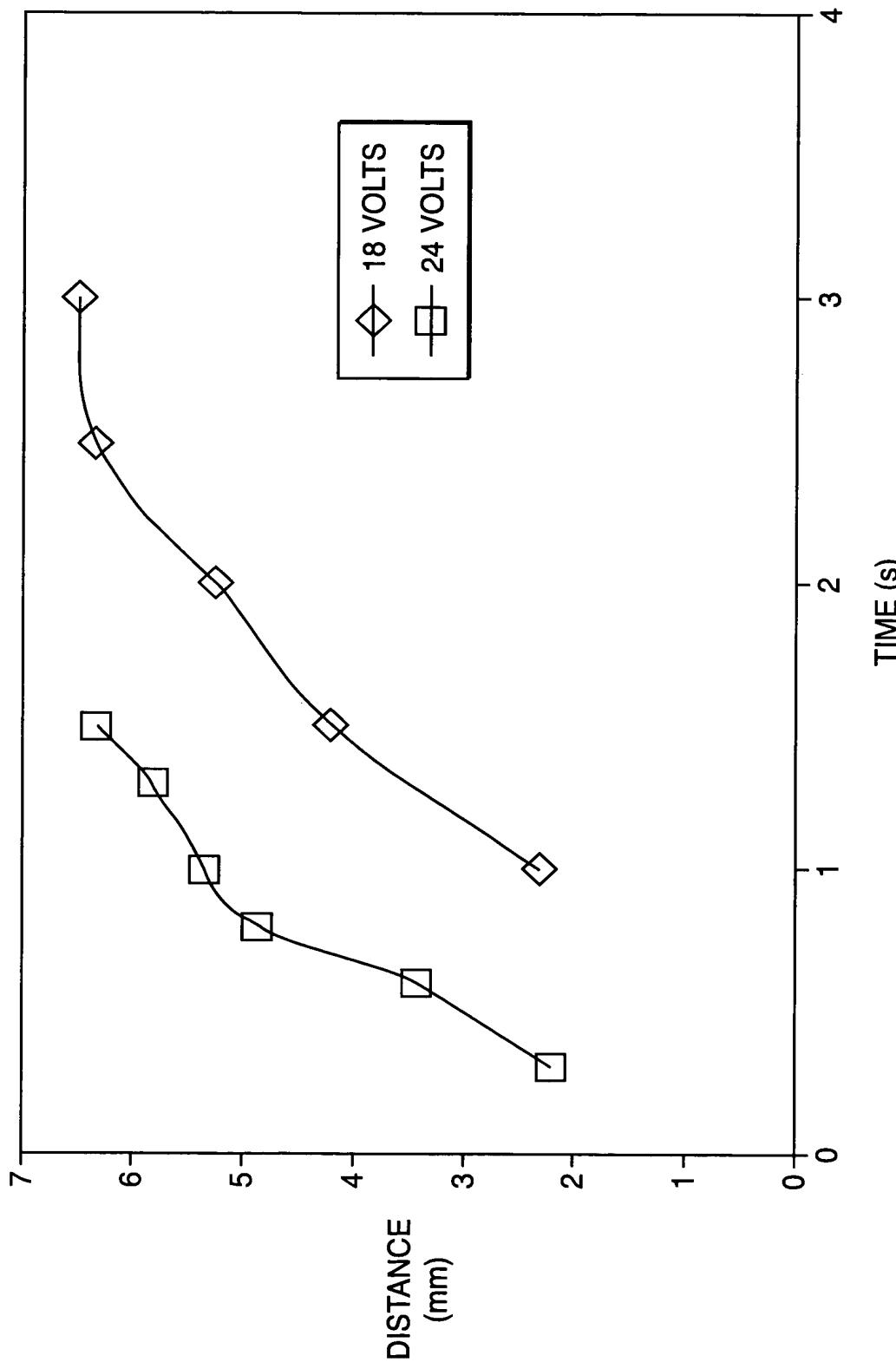


FIG. 26A

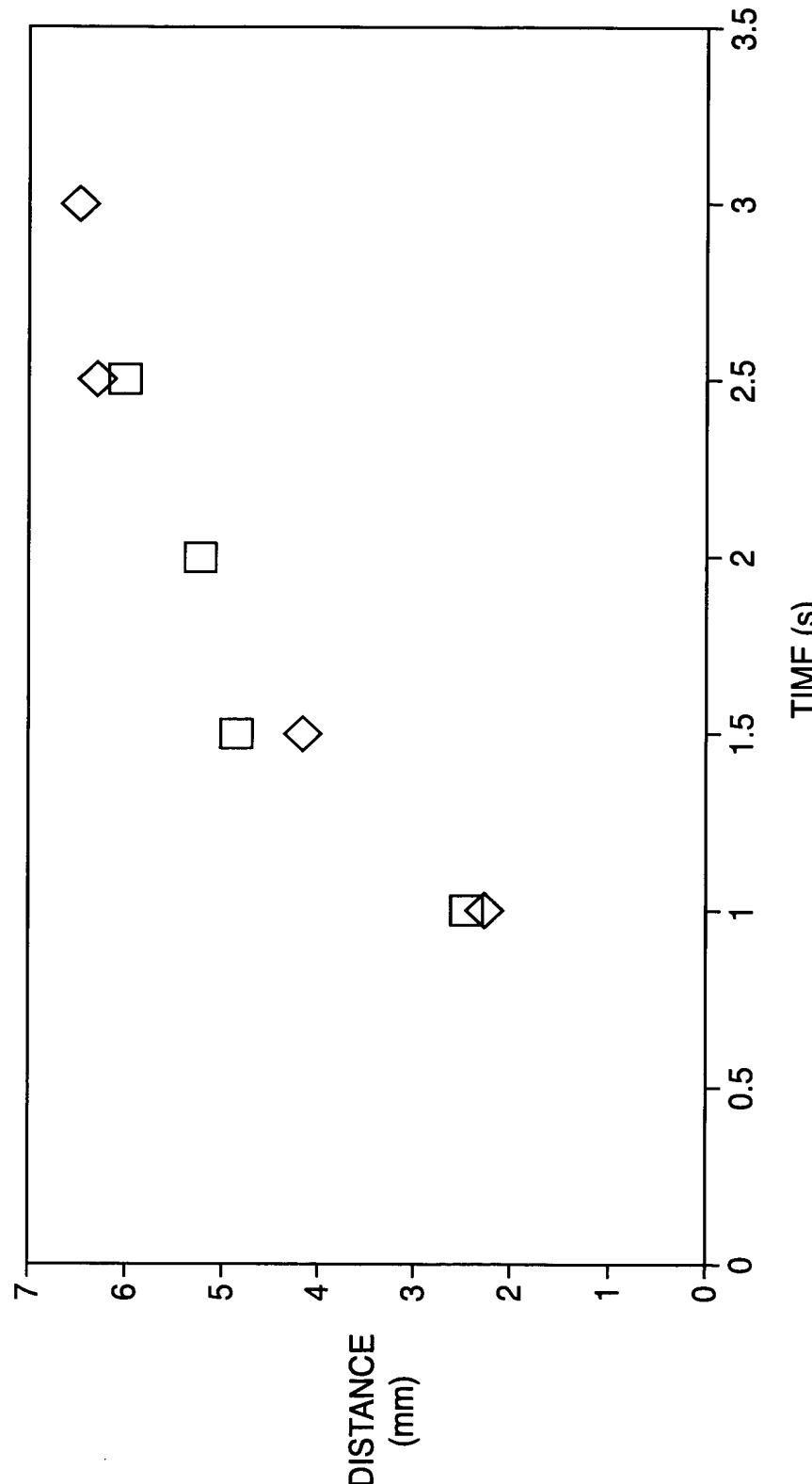


FIG. 26B

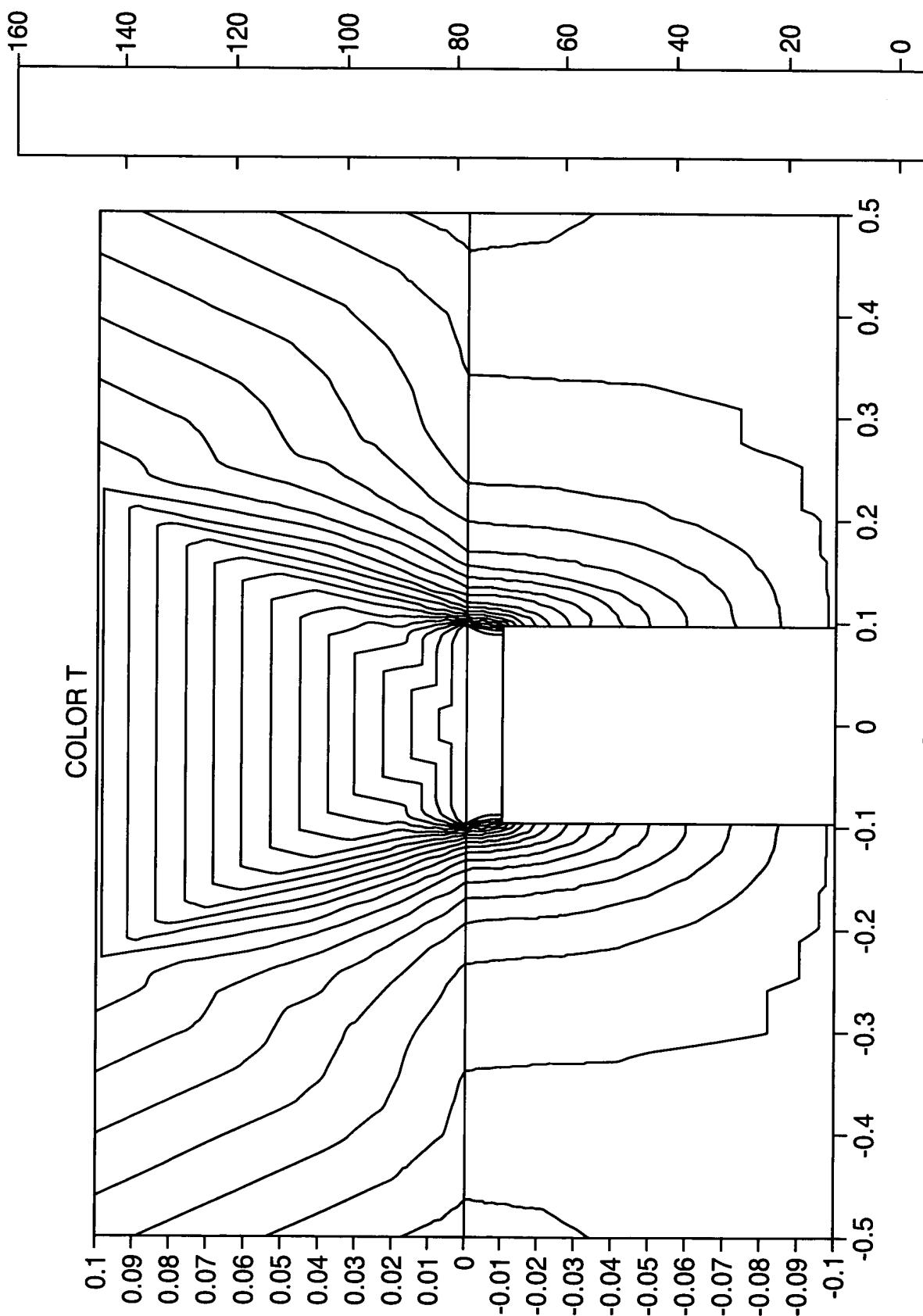


FIG. 27